Unit 17 Denmore Industrial Estate, Denmore Road, Bridge of Don, Aberdeen AB23 8JW

User Manual

X-Over

15 - 2 Acme Pin (9.18” Seal Bore)

This Manual Covers the Following Part Numbers:

150-4430-HV0

Table of Contents

Revision History ii
Safety iii
1 Introduction 1
1.1 General 1
1.2 Product Identification 1
2 Technical Specification 2
3 3 Operation 3
3.1 Pre Job 3
3.2 During Job 3
3.3 Post Job 3
4 Maintenance 4
4.1 Introduction 4
4.2 Schedule 4
4.2.1 Pre & Post Job 4
4.2.2 Yearly 4
4.2.3 Five Yearly 4
4.3 Safety 4
4.4 Maintenance Record Sheet 5
5 Testing 6
6 Parts List and Drawings 7
7 Spares 8
7.1.1 Individual Items 8

Table 1: Technical Data 2
Table 2: Maintenance Record 5
Table 3: Parts List 150-4430-HV0 7
Table 4: Parts List RDK-4430-HV0 8

Figure 1: X-Over 2
Figure 2: X-Over Assembly 150-4430-HV0 7

Revision History

Issue, Release Date	Description
Rev A, 28 Feb 12	Initial Issue

Safety

WARNING: Trapped air requires considerable time to compress and when it is compressed is highly dangerous. It has enough stored energy to separate parts with considerable force.

Seals in high-pressure vessels are also susceptible to explosive decompression; the O-rings or rubber gaskets used to seal pressurised pipelines tend to become saturated with high-pressure gases. If the pressure inside the vessel is suddenly released, then the gases within the rubber gasket may expand violently, causing blistering or explosion of the material.

All pressure equipment has a particular pressure rating and care must be taken to ensure that no item is used in a situation that may cause its working pressure to be exceeded.

All personnel involved in pressure testing must be formally trained, competent and utilising the appropriate PPE.

Ensure the identification band/plate is fitted and is displaying the correct information as per the Tag Sheet/Index

This equipment and the equipment it is attached to is heavy never position yourself below a suspended load

1 Introduction

1.1 General

The X-Over is designed to allow interconnection between equipment with different sizes of end connectors (Refer to table 1 for connection sizes)

This user manual serves as an introduction to the equipment and contains the relevant specifications, operation, planning and maintenance instructions, parts list and drawings.

1.2 Product Identification

Phuel products are identified by a unique serial number that facilitates full product traceability. Each product is supplied with a documentation pack that contains product certification and material/inspection reports. The serial number is always etched on the surface of the product but can sometimes be difficult to find or read after painting. A customer identification number is also included to allow the customer to track the asset in their system.

A stainless steel band secures the nameplate tag that is stamped with the information shown below. This tag should be located in the first instance to ensure that this manual refers to the correct equipment.

2 Technical Specification

Part Number	150-4430-HV0
Connection	12 ¼-4 Acme Box 15 - 2 Acme Pin (9.18'' Seal Bore)
Maximum Working Pressure	15,000 Psi
Service	H2S
Weight	589 lbs / 267kg
Make Up length	15.32"/ 0.39m

Table 1: Technical Data

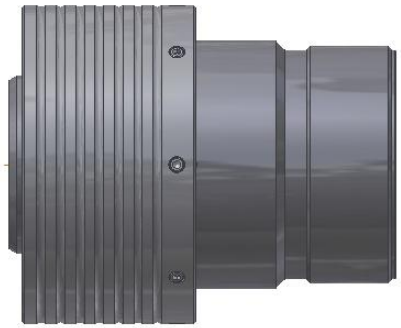

Figure 1: X-Over

3 3 Operation

All operations to be carried out by suitably qualified and competent personnel

3.1 Pre Job

- Ensure thread protectors are fitted
- Check maintenance record sheet and ensure the equipment has been maintained by competent personnel
- Check all certification is in date
- Confirm information band is fitted and correct
- Ensure equipment is suitable for the maximum working pressures and services involved
- Ensure 'Spring Seal is seated correctly and there are no signs of damage
- Ensure threads are clean
- Inspect for signs of damage
- Pressure test to 1.2x the maximum well pressure
- Ensure all connections are tight
- Ensure that spare Spring Seal is available and sent with the equipment.

3.2 During Job

- Avoid excessive movement

3.3 Post Job

- Inspect for signs of damage and report any findings
- Ensure threads are cleaned and the re-greased
- Ensure thread protectors are fitted

4 Maintenance

All maintenance to be carried out by suitably qualified and competent personnel

4.1 Introduction

Regular maintenance of the equipment using Phuel redress kits or Phuel approved parts is essential to its continued safe operation. Ensure that the pre and post job operating procedures are followed and that maintenance records are kept.

4.2 Schedule

The maintenance schedule may be governed by international or company standards and the following is considered to be the minimum requirements.

4.2.1 Pre & Post Job

Refer to Section 3.1 and Section 3.3 for details

4.2.2 Yearly

- Inspect the condition of all sealing surfaces and surface coatings
- Re-coat threads and sealing surfaces if necessary. If in doubt contact Phuel Oil Tools Ltd
- Replace all elastomeric seals with items from redress kit (see spares Section 7)
- Pressure test to maximum working pressure in accordance to testing procedure (see 5)
- Inspect paint work and repair as necessary

4.2.3 Five Yearly

- Yearly Maintenance (plus the following)
- Carry out 100% surface NDE on all surfaces
- Pressure test to test pressure witnessed by certifying authority
- Inspect paint work and repair as necessary

4.3 Safety

- Many of the components are heavy and should not be lifted without lifting aids.
- Ensure all pressure testing is carried out in the appropriate testing area by suitably qualified personnel.
- Wear appropriate personal protective equipment.

4.4 Maintenance Record Sheet

Date Performed	Type of Maintenance	Performed By	Verified By	Comments

Example

Table 2: Maintenance Record

5 Testing

All testing is to be carried out in the designated test area and by suitably qualified and competent personnel.

WARNING: Trapped air requires considerable time to compress and when it is compressed is highly dangerous. It has enough stored energy to separate parts with considerable force.

- Fit appropriate test caps and blanking plugs
- Fill with testing fluid bleeding off any air within the system
- Apply a pressure of 500 psi and ensure pressure holds for a minimum of 10 minutes
- Increase pressure to Maximum Working Pressure, allow to stabilise and maintain this pressure for a minimum of 15 minutes. Ensure there are no apparent leaks.
- Bleed off pressure, drain test fluid and dry
- Remove test caps
- Apply coating of de-watering solution to protect the bore and threads
- Fit thread protectors

On completion of all maintenance ensure the maintenance record sheet (Para 4.6) is completed

6 Parts List and Drawings

Note: Thread protectors (items 100 and 101) not shown on Assembly Drawing

Item Number	Part Number	Quantity	Description
1	150-4468-480	1	X-OVER BODY 15-2 P+C X 12-1/4-4 (9.18'' Seal Bore)
2	110-2981-411	1	SOLID COLLAR (15-2 ACME)
3	803-3202-V90	2	SPRING SEAL FOR 15-2 CONNECTION
4	SHC-0585-HTS	8	Soc Hd Cap Size 1/2 Length 1 in
5	WNL-0580-316	8	WASHER NORDLOCK (M12)
98	910-4526-N66	1	PROTECTOR 12.25-4 FEMALE
99	910-3192-N66	1	15-2 MALE PROTECTOR

Table 3: Parts List 150-4430-HV0

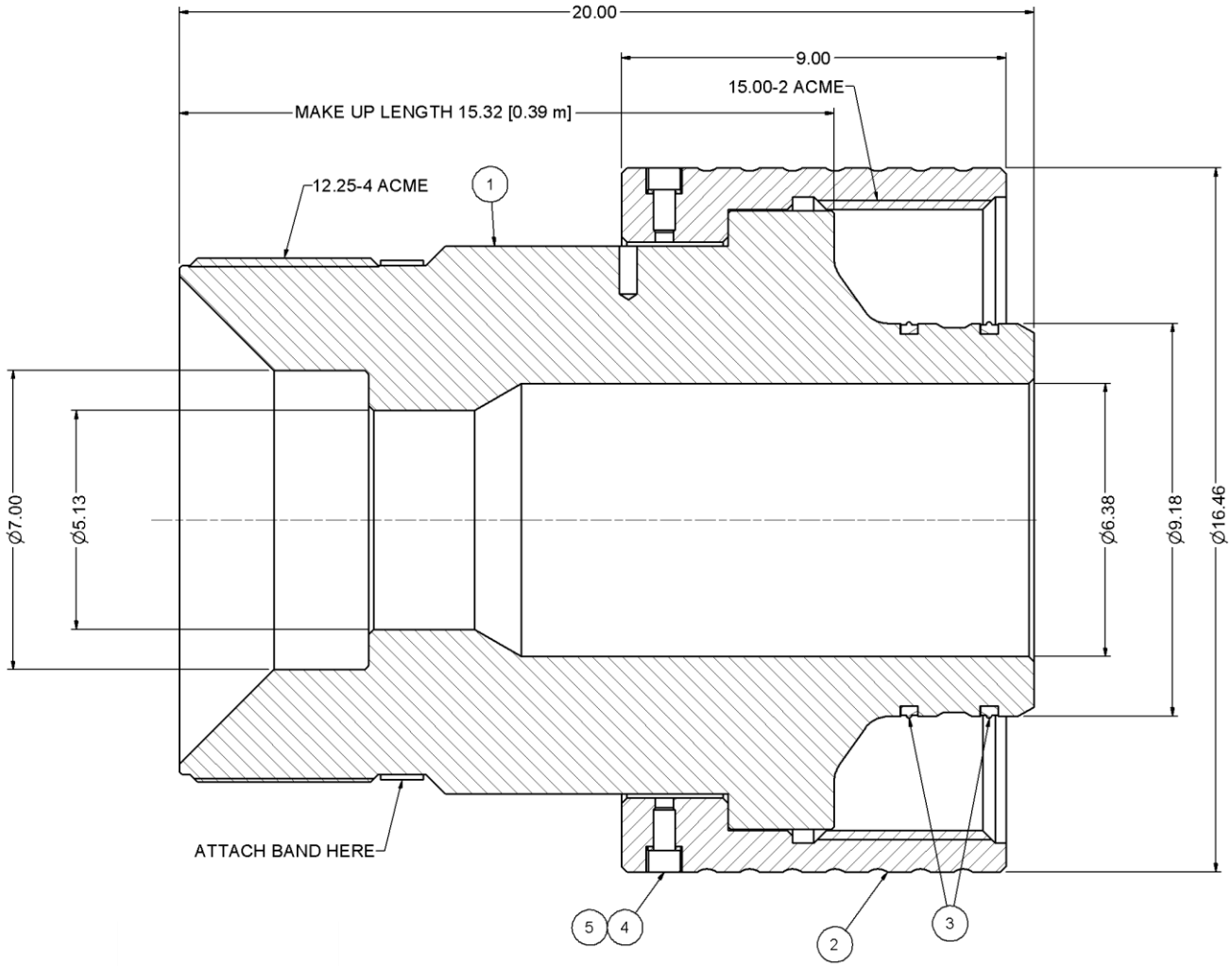

Figure 2: X-Over Assembly 150-4430-HV0

7 Spares

Use only spares supplied or approved by Phuel Oil Tools Ltd.

It is recommended that sufficient quantities of the following spares be maintained to ensure that the equipment is always available when required.

Elastomeric spares are supplied in Viton material as standard. Many other materials are available please specify when ordering.

Part No	Qty	Description
803-3202-V90	2	SPRING SEAL FOR 15-2 CONNECTION

Table 4: Parts List RDK-4430-HV0

7.1.1 Individual Items

Individual items may be ordered as required using the part number specified

Note: O-Rings conform to industry standards and may be substituted with those from other suppliers -– **at the sole risk of the user**